EPI-LOG

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Seattle & King County

Epidemiology, Prevention Division
401 Fifth Avenue, Suite 900
Seattle, WA 98104-2333

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Tao Sheng Kwan-Gett, MD MPH editor (tao.kwan-gett@kingcounty.gov)
To update address information email olivia.cardenas@kingcounty.gov

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Summary of Recommendations for Influenza Testing, Antiviral Treatment, and Chemoprophylaxis

To follow up on last month's issue focusing on influenza vaccination, this month's *Epi-Log* reviews testing, antiviral treatment, and chemoprophylaxis recommendations for influenza.

Influenza continues to be detected at low levels in King County. Initial positive specimens from outpatient surveillance have been identified as influenza A (H3). An outbreak of flu at an elementary school in South King County in October was laboratory confirmed as influenza A (H3). Emergency room visits for influenza-like illness are at typical levels for this time of year.

Diagnostic Testing for Influenza

Rapid influenza diagnostic tests (RIDTs) produce fast results, but may not be accurate. Sensitivities of RIDTs are generally 40-70%, but a range of 10-80% has been reported compared to viral culture or reverse transcription polymerase chain reaction (RT-PCR). Specificities of RIDTs are approximately 90-95% (range 85-100%). Thus, false negative results occur more commonly than false positive results.

False negative test results are common during influenza season. A negative RIDT result does NOT exclude a diagnosis of influenza in a patient with suspected influenza. When there is clinical suspicion of influenza and antiviral treatment is indicated, start antiviral treatment as soon as possible without waiting for results of additional influenza testing.

Other testing (immunofluorescence, RT-PCR, viral culture) is more accurate, but can take longer. When influenza is suspected and antiviral treatment is indicated, antiviral treatment should begin as soon as possible and should not wait for the results of testing.

To minimize the risk of false RIDT results:
- Collect specimens as early in the illness as possible (ideally less than 4 days from onset).
- Follow manufacturer's instructions for specimen collection and handling.
- Follow-up negative results with confirmatory tests (RT-PCR or viral culture) if a laboratory-confirmed influenza diagnosis is desired.

Antiviral Treatment for Influenza

Clinical and observational data show that early antiviral treatment of influenza can shorten the duration of symptoms; reduce the risk of complications (e.g., otitis media in young children, pneumonia, respiratory failure, and death in adults); and shorten the duration of hospitalization.

Antiviral treatment is recommended as early as possible for any patient with confirmed or suspected influenza who:
- Is hospitalized.
- Has severe, complicated, or progressive illness.
- Is at higher risk for influenza complications.

Persons at higher risk for influenza complications recommended for antiviral treatment include:
- Children aged <2 years.
- Adults aged ≥65 years.
- Persons with chronic pulmonary (including asthma), cardiovascular (except hypertension alone), renal, hepatic, hematological (including sickle cell disease), metabolic disorders (including diabetes mellitus), or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle such as cerebral palsy, seizure disorders, stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury).
- Persons with immunosuppression, including that caused by medications or by HIV infection;
- Women who are pregnant or postpartum (within 2 weeks after delivery).
- Persons aged <19 years who are receiving long-term aspirin therapy.
- American Indians/Alaska Natives.
- Persons who are morbidly obese (i.e., body-mass index ≥40).
- Residents of nursing homes and other chronic-care facilities.

Clinical judgment, on the basis of the patient's disease severity and progression, age, underlying medical conditions, likelihood of influenza, and time since onset of symptoms, is important when making antiviral treatment decisions for high-risk outpatients.

When indicated, antiviral treatment should be started as soon as possible after illness onset, ideally within 48 hours. However, antiviral treatment might still be beneficial in patients with severe, complicated or pro-

gressive illness, and in hospitalized patients when given after 48 hours. For example, antiviral treatment of pregnant women with influenza A (2009 H1N1) was shown to be most beneficial in preventing respiratory failure and death when started within less than 3 days of illness onset, but still provided benefit when started 3 to 4 days after onset compared to 5 or more days (Siston, et al *JAMA* 2009). A larger study reported similar findings and showed that starting oseltamivir treatment up to 4 days after onset provided benefit in reducing the risk of severe illness compared to later treatment of 2009 H1N1 (Yu, et al. *Clinical Infectious Diseases* 2011).

Treatment should not wait for lab confirmation.

Because influenza vaccination is not 100% effective in preventing influenza, a history of flu vaccination does not rule out the possibility of influenza virus infection in a patient with an illness compatible with influenza.

Antiviral treatment also can be considered for previously healthy, symptomatic outpatients with confirmed or suspected influenza who are not at high risk, if treatment can be started within 48 hrs of illness onset.

Chemoprophylaxis

Antiviral medications are 70-90% effective in preventing influenza and are useful adjuncts to vaccination.

The Centers for Disease Control and Prevention (CDC) does not recommend widespread or routine use of antiviral chemoprophylaxis. Indiscriminate use of chemoprophylaxis might promote resistance or reduce availability for treatment of persons at higher risk for influenza complications or who are severely ill.

Early treatment and monitoring is an alternative to chemoprophylaxis after exposure for some persons.

To be effective as chemoprophylaxis, an antiviral medication must be taken each day for the duration of potential exposure to a person with influenza and continued for 7 days after the last known exposure. For persons taking antiviral chemoprophylaxis after influenza vaccination, the recommended duration is until immunity after vaccination develops (antibody development after vaccination takes about two weeks in adults and can take longer in children depending on age and vaccination history).

Chemoprophylaxis generally is not recommended if more than 48 hours have elapsed since the last exposure to an infectious person. Patients receiving chemoprophylaxis should be encouraged to seek medical evaluation as soon as they develop a febrile respiratory illness that might indicate influenza.

For more information:

- **CDC antiviral guidance: www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm**
- **Additional CDC flu guidance for providers: www.cdc.gov/flu/professionals/index.htm**
- **Public Health Flu website: www.kingcounty.gov/health/flu**

Disease Reporting

AIDS/HIV……	(206) 263-2000
STDS……	(206) 744-3954
TB……	(206) 744-4579
All Other Notifiable Communicable Diseases …….....	(206) 296-4774
Automated reporting line for conditions not immediately notifiable (24/7)……....	(206) 296-4782

Hotline

Communicable Disease……..... (206) 296-4949

Online Resources

Home Page: www.kingcounty.gov/health/cd
The *EPI-LOG*: www.kingcounty.gov/health/epilog
Communicable Disease Listserv:
mailman.u.washington.edu/mailman/listinfo/phskc-info-x

Reported Cases of Selected Diseases, Seattle & King County 2012

	Cases Reported in October		Cases Reported Through October	
	2012	**2011**	**2012**	**2011**
Campylobacteriosis	39	34	316	310
Chlamydial infections	539	535	5529	5362
Cryptosporidiosis	1	2	18	5
Giardiasis	24	20	125	127
Gonorrhea	118	89	1184	1139
Hepatitis A	1	1	9	13
Hepatitis B (acute)	0	1	9	10
Hepatitis B (chronic)	62	57	513	410
Hepatitis C (acute)	0	0	4	4
Hepatitis C (not acute, includes current and past infection)	87	112	974	1046
Herpes, genital (primary)	24	56	476	1118
HIV and AIDS (includes only AIDS cases not previously reported as HIV)	21	29	265	261
Legionellosis	3	2	6	7
Listeriosis	3	0	9	5
Measles	0	0	0	0
Meningococcal Disease	0	0	4	7
Mumps	0	0	0	0
Pertussis	30	9	678	56
Rubella (including congenital rubella)	0	0	0	2
Salmonellosis	24	18	173	146
Shiga toxin producing *E. coli (STEC), including E. coli O157:H7 and non-O157)*	12	6	57	30
Shigellosis	8	3	54	31
Syphilis	17	30	284	306
Syphilis, congenital	0	0	2	0
Syphilis, late	8	15	83	116
Tuberculosis	5	15	94	87
Vibriosis	7	8	23	19
Yersiniosis	2	1	14	4

The *Epi-Log* is available in alternate formats upon request.